



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,376	01/26/2007	Tatsuhiko Matsuda	1794-0187PUS1	8436
2292 7590 04/15/2010 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER				
SAXENA, AKASH				
ART UNIT		PAPER NUMBER		
2128				
NOTIFICATION DATE		DELIVERY MODE		
04/15/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/588,376

Applicant(s)

MATSUDA, TATSUHIRO

Examiner

AKASH SAXENA

Art Unit

2128

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 January 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/CD)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-8 have been presented for examination.
2. Claims 1, 2, 3, 5, 7 and 8 are rejected under 35 U.S.C. 102(b).
3. Claims 4, 6 & 8 are rejected under 35 U.S.C. 103(a).
4. This action is made Final.

Response to Arguments

5. Rejections under 35 USC 112~~1~~2nd made previously are withdrawn and new rejection is made based on the amendment.
6. Rejections under 35 USC 101 made previously are withdrawn.
7. The newly amended limitations are rejected over prior art of record under under 35 USC 102 or 103.

Specification

8. Amendment to specification and the abstract of the disclosure are noted.

Objection to Specification

9. 35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are: in the paragraph spanning pages 3 and 4, which copy (centrally or locally managed) file is replaced after the design is completed.

10. In page 15 line 12, the term "the entity file of an OS (operating system)" is unclear and inexact. It is not clear if this is the same "entity file" recited in page 17 line 6.
11. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112nd

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claim 1

Claim 1 discloses "performing management of geometrical information other than that of the parameters set up into the virtually shared state...as objects without data compatibility in the plurality of different CAD systems". First, metes and bounds of the "**other than that of the parameters set up** into the virtually shared state" are not defined in the claim. Secondly, the claim discloses a negative limitation "without data compatibility", further not specifying what attributes/geometrical information this incompatibility would exclude.

Claim 2 and 7 suffer from the same deficiency as claim 1 and are rejected for the same reasons. Dependent claims 3-6 and 8 do not cure this deficiency and are rejected likewise.

Claim Interpretations

13. The term "virtually shared state" is interpreted to mean "having similar or analogous attribute" (suitable for assignment in a plurality of CAD systems) in view of description paragraph starting on page 5 line 21.
14. Regarding claim 4, per common English usage, the noun after the verb "notifying" is usually the entity receiving the notification. Accordingly, lines 3-5 of claim 4 is being examined as if it is written as: "... notifying the plurality of different CAD systems of the finite differences managed by the finite difference managing means."
15. Regarding claim 5, the broadest reasonable interpretation is being applied to the "preparation means" limitation for examination purpose.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

16. Claims 1, 2, 3, 5, 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Paul K. Wright et al. in “Management and Analysis of Design Constraints for Electronic-Mechanical Product Manufacturing”, Transactions of the North American Manufacturing Research Institution, May 2002, Volume 30, pp.703-710 (Wright hereinafter).

Regarding Claim 1

Wright teaches a computerized design parameter managing method for managing design parameters used respectively in a plurality of different CAD systems, comprising (Wright: Abstract & Fig.1): performing computerized separation of CAD data used, respectively, in the plurality of CAD systems into geometrical information and attribute information (Wright: Pg. 703 (Introduction), Pg.704 Col.1¶2 ("The first objective...")); performing computerized setting up of arbitrary design parameters among the design parameters used respectively in the plurality of different CAD systems into a virtually shared state among the plurality of different CAD systems (Wright: *i.e. interacting or coupled electrical/mechanical features, see p. 704 column 2 lines 6-8; Fig.1 & 6 with respective disclosure*); performing computerized correlation of the separated attribute information with the parameters set up into the

virtually shared state (Wright: Pg.704 Col.2 ("Component Anatomy Tree")); performing computerized accessing and recognizing of the separated attribute information correlated with the parameters set up into the virtually shared state among CAD data used respectively in the respective CAD systems (Wright: Fig.4 and Pg. 705 Col.2 ("Standard File Format" for CAD Data Exchange)); performing computerized management of geometrical information of the parameters set up into the virtually shared state (Wright: *i.e. cross domain design couplings, see p. 704 column 2 near lines 3-7 and table 1*) which are correlated with the accessed and recognized attribute information as objects with data compatibility in the plurality of different CAD systems (Wright: Pg. 705 Col.2 ("Standard File Format" for CAD Data Exchange) & Pg.705-706 "Relational Data Structure"); *Entity-Relationship of underlying ORDBMS, see figure 5 and p. 706 column 1 near line 18*); performing management of geometrical information other than that of the parameters set up into the virtually shared state which are correlated with the accessed and recognized attribute information as objects without data compatibility in the plurality of different CAD systems (Wright: Fig.3 "lid outline"); and displaying the geometrical information for use in development of a product (Wright: Pg.705 Col.1 ¶2 & Pg.708 Col.1 last paragraph - Col.2; Fig.6).

Regarding Claim 2

Claim 2 discloses a system, taught by Wright as Suit of Design and Manufacturing tools, further disclosing limitations which are rejected in the same manner as claim1.

Regarding Claim 3

Wright discloses the *computerized design parameter* (Wright: *i.e. design features, see Abstract lines 9-11*) comprising: registering an attribute correlation table (*table 1 and figure 5 disclose a functionally equivalent implementation*) for correlating arbitrary design parameters (*i.e. electronic/mechanical feature IDs*) among the design parameters used respectively in the plurality of different CAD systems as the shared parameters (*i.e. cross-domain coupled, see p. 706, see table 1 and p. 706 paragraph spanning column 1 and 2*) among the plurality of different CAD systems to a database; a computerized history managing component (*i.e. feature log, see p. 708 paragraph spanning column 1 and 2*) for managing a history (*each feature change is logged*) between the design parameters used respectively in the plurality of different CAD systems and the shared parameters registered to the database by means of the registration means; and computerized reflecting (*i.e. "be current with the latest modifications to CAD models", see p. 704 paragraph spanning column 1 and 2*) the differential information (component)(*modifications*) between the design parameters used respectively in the plurality of different CAD systems (*MCAD and ECAD*) and the shared parameters registered to the database by the registration means based on the history managed by the history managing means.

Regarding Claim 5

Teachings of Wright are disclosed as discussed in claim 2 rejection above. Wright also disclose a preparation means (*Component Anatomy Tree, see figure 3*) capable of preparing (*connecting with dotted line, see p. 704 column 2 last paragraph line 12*

to p. 705 column 1 line 9 and figure 4) three-dimensional data (i.e. lid CAD model) in a condition wherein logical electric design information (i.e. mote contact pad position and size) has been correlated to physical three-dimensional configuration information (lid access holes position and size).

Regarding Claim 7

Claim 7 discloses a program-product (Wright: DUCADE Fig.1) further discloses similar limitations as claim 1 and it is rejected likewise.

Regarding Claim 8 (Dependent from claims 2, 3 or 5)

Claim 8 discloses a program-product (Wright: DUCADE Fig.1).

---- *This page is left blank after this line* ----

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 4 & 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Wright.

Regarding Claim 4

As per **claim 4**, the teachings of Wright are disclosed as discussed in claim 3 rejection above. Wright discloses a notification means (*p. 708 column 1 last paragraph lines 6-10*) notifying the finite differences managed by the finite difference managing means to designers who use the plurality of different CAD systems (*both systems: the mechanical lid and electronic PCB*). Wright does not disclose expressly of sending notification to the plurality of CAD systems as claimed.

But it is well known in the art to display system messages when a user first log on. It would have been obvious to a person of ordinary skill in the art at the time of the invention to also configure Wright's notification system to request the notification message be displayed when the users next log on to the system. The motivation for doing so would have been to increase the likelihood of the users receiving the notification message. Therefore, it would have been obvious to modify Wright as

discussed for the benefit of better communication to obtain the invention as specified in claim 4.

Regarding Claim 8 (Dependent from claim 4)

Claim 8 discloses a program-product (Wright: DUCADE Fig.1).

18. Claims 6 & 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wright in view of U.S. Patent Application Publication # 2003/0001839 to Tatsuhiro Matsuda (Matsuda hereinafter).

Regarding Claim 6

As per **claim 6**, the teachings of Wright are disclosed as discussed in claim 2 rejection above. Wright does not disclose expressly the use of an electronic parts data library as claimed. Matsuda discloses a means for preparing and managing an electronic parts data library which has been modeled in a three-dimensional configuration (*Matsuda: component three-dimensional detail shape library 22, see figure 1 and paragraph 47 lines 13-14*);

Wright and Matsuda are analogous art because they are from same field of endeavor of collaborative mechanical and electrical Computer-Aid Design. It would have been obvious to a person of ordinary skill in the art at the time of the invention to add Matsuda's electronic part data library with detailed 3D shapes to Wright's system. The motivation for doing so would have been to create highly precise 3D models without re-rendering each part from scratch each time (*Matsuda: paragraphs 4-5*).

Matsuda does not disclose expressly the three-dimensional electronic parts data library being arranged so as to have parts origin information and material physical property information. Wright discloses (*ORDBMS*, see *Wright figure 5 and p.706*) an electronic parts database correlating a shared parameter (*i.e. electronic part/EFEATURE*) with its part origin (*i.e. location/EFEATURE_LOC*), and a material physical property information (*i.e. size/EFEATURE_SIZE*).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Matsuda's electronic parts database to include part origin, material physical property information and feature ID of each electronic part with its 3D detailed shape. The motivation for doing so would have been to minimize the need to access multiple databases during the design process. Therefore, it would have been obvious to combine Matsuda with Wright for the benefit of increased computation efficiency to obtain the invention as specified in claim 6.

Regarding Claim 8 (Dependent from claim 6)

Claim 8 discloses a program-product (Wright: DUCADE Fig.1).

---- *This page is left blank after this line* ----

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

---- *This page is left blank after this line* ----

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AKASH SAXENA whose telephone number is (571)272-8351. The examiner can normally be reached on 8:00- 6:00 PM Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini S. Shah can be reached on (571)272-2279. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kamini S Shah/
Supervisory Patent Examiner, Art
Unit 2128

/Akash Saxena/
Examiner, Art Unit 2128